

Middle School Initiative

**PART I
COVER SHEET**

CAP 4 SEMESTER 1 WEEK 11

COURSE: Administrative Officer Leadership Laboratory, Achievement 10

LESSON TITLE: Problem Solving

LENGTH OF LESSON: 50 Minutes

METHOD: Informal Lecture - Discussion / Guided Discussion

REFERENCE(S):

1. *Leadership: 2000 and Beyond*, Volume II, Chapter 9
2. AU-1, *Communication Techniques*, Volume III, *Creative Problem Solving and Solution Reporting*, July 1974
3. AFH 33-337, *The Tongue and Quill*, Page 237, 30 Jun 97

AUDIO/VISUAL AIDS/HANDOUTS/ACTIVITY MATERIAL(S):

1. Overhead Projector
2. Transparencies

COGNITIVE OBJECTIVE: The objective of this lesson is for each cadet to understand the procedures necessary for the resolution of any given problem.

COGNITIVE SAMPLES OF BEHAVIOR: Each cadet should gain sufficient knowledge to apply the procedures required in problem solving.

AFFECTIVE OBJECTIVE: N/A

AFFECTIVE SAMPLES OF BEHAVIOR: N/A

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PART II TEACHING PLAN

Introduction

ATTENTION: Good afternoon and welcome to another class on principles of military leadership. In the last achievement, we had a short session on decision-making. Our class today is designed to reinforce your decision-making powers.

MOTIVATION: *"Every leader needs to look back once in a while to make sure he has followers."* - Anonymous. Each is a follower and a leader. What you learn here today will increase your capabilities as cadet leaders.

TRANSITION: Taken from Air Force Handbook 33-337, *The Tongue and Quill*, is this generalized statement written by *The Quill*, - *"All generalizations are false to a certain extent--including this one."* This poses a problem that must be resolved and we will study the factors involved in problem solving during this period.

Body

MP 1 Decisions are made daily by each of use based on rational or irrational thinking. Problem solving requires rational thinking. We will look into the logical steps of problem solving, but do not blindly follow these steps without considering a previous phase of your logic. As problems are raised, the sequencing of the each of these steps may change. Generally speaking, the sequence of logical problem solving is to (1) Recognize the problem, (2) Gather information/data, (3) List all possible solutions, (4) Test the possible solutions, (5) Select the best possible solution, and (6) Apply that best possible solution.

Let's take a look at each of these sequences in turn and then study one of the cases contained in your leadership text.

Recognize the Problem. What is the problem you are confronted with? Whatever it is, you must analyze all the factors - think, think, think. First of all, restrict the problem to a manageable size by fixing the *who, what, when, and how* of the situation. Eliminate those things that are of no concern to the situation. Narrow your problem to exactly what you need to discuss. A fuzzy or inaccurate problem statement will tend to lead you astray. Here is a general problem that affects us all - school children are abusers of drugs. Our problem statement might then be "Reduce the use of illegal drugs by school children." This is a very broad statement in that we have included ourselves as illegal users of drugs. Let's narrow that statement down a little further to "How to detect and limit the use of dangerous drugs in the school district." Still too broad for our use. Let's narrow it down further to

"Detect and limit the use of illegal drugs by children in our school." This is now a more definitive statement of the problem that confronts us.

Gather Information/Data. At this point in your problem solving process, you need to gather all the information possible that relates to this problem. In this particular problem much of the information may be considered as sensitive and might not be released by the authorities that are privy to it. Your data might include the total number of users known to school authorities, their ages, etc. What you will not get is names and other personal information that will hurt those involved, further. You might seek out the causes for this unauthorized use of drugs, whether family or school related; the kinds of neighborhoods in which the users reside; and any other pertinent information that will help you in attaining your possible solutions.

The data that the problem solution requires may be classified as the following:

TRANSPARENCY LL10.2.1 - Data Classification

1. Facts - These are the known truths.
2. Assumptions - Opinions gathered from several sources.
3. Criteria - This defines the limits within which your solution must fall.

TRANSITION: Now that we have gathered data relevant to the problem, we must process this information and make some recommendations to resolve the problem.

List Possible Solutions. Creative thinking is now in order. You are now ready to give your imagination free rein to list as many possible solutions to the problem as your facts and assumptions will support. Each of these possible solutions that you list must be weighed against the criteria that you have established. Do not pass judgement on any possible solution at this time. You are looking for quantity and not quality of the possible solutions.

Test Possible Solutions. This is the time in the problem sequence in which you put all of the possible solutions to the test. The yardstick by which you measure these solutions is the degree to which each of these solutions meets the criteria that has been established.

If you have established multiple criteria, then each possible solution must be tested against each of the criteria. The purpose here is to eliminate those solutions that can not meet each criterion. Eventually you will narrow down the possible solutions to the final solution to the problem, as you see it. Wait! There are two possible solutions that meet all the criteria. What next?

Select the Best Possible Solution. Selecting the best possible solution to the problem may require you to establish additional criteria, or increase the strength of those already established. Again, each remaining solution must be weighed against the criteria until only one solution remains. We are not done yet.

Implement the Problem Solution. Once you have found the solution to the problem, it must be put to the ultimate test - put it to work. Its effectiveness must be evaluated to assure that this is the solution to the problem. Since you are the problem solution committee, the solution should be sent to the commander for implementation. He/she will more than likely require you to evaluate your job to see if there might be room for improvement in the solution.

MP 2 Now that we have become aware of what we must do to solve a problem, let's look at one of the problems in your text on pages 9-4 and 9-9.

NOTE: The instructor will guide a discussion on any one of the three scenarios shown on these two pages. Time remaining in the class period will determine how effective the process will be in covering all aspects of problem solving. Each phase of the process should be recorded by the class administrative officer to assure that all facets of the problem are covered.

The instructor should be granted sufficient latitude to determine which case to pursue and reach a consensus of opinion in resolving the problem. Each approach to the same scenario may have a different solution. There are no pat answers due to the approach taken by the problem solvers.

Conclusion

SUMMARY: To sum up this period, we have discussed the procedure on how to resolve a problem. The steps are (1) Recognize the problem, (2) Gather data, (3) List possible solutions, (4) Test possible solutions, (5) Select the best solution, and (6) Implement the problem solution. We discussed each one of these steps in reasonable depth and applied them to a case study.

REMOTIVATION: *"Always do right. This will gratify some people and astonish the rest."*

- Mark Twain.

CLOSURE: To close today, I will say that we had a very productive class this period. Each of you contributed immeasurably to our discussion on problem solving and I certainly appreciate it. Our next class on leadership will cover the formatting of a staff study report. This will be a continuation of the problem solving process. Class is dismissed.

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**PART III
LESSON REVIEW**

LESSON OBJECTIVE(S): The objective of this lesson was to acquaint each cadet with the method of solving specific problems.

LESSON QUESTIONS: Completion of the chapter review exercise on material contained in this lesson will satisfy this requirement.